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Semiannual Status Report

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**The Life Cycles of Intense Cyclonic and Anticyclonic
Circulation Systems Observed Over Oceans**

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(NASA-CR-196271) THE LIFE CYCLES
OF INTENSE CYCLONIC AND
ANTICYCLONIC CIRCULATION SYSTEMS
OBSERVED OVER OCEANS Semiannual
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1. Technical report

The work over the past six months has focused on the October/November 1985 blocking case study noted in the last progress report. A summary of the results of this effort is contained in the attached preprint papers for the Symposium on the Life Cycles of Extratropical Cyclones. Using this case study as a model, Ph.D. student Anthony Lupo is now initiating the multiple-case diagnosis by first examining two more fall 1985 blocking episodes.

In addition, two secondary efforts have been completed, as summarized in the attached M.S. thesis abstracts. Both studies, which were primarily funded by a fellowship and a teaching assistantship, complement the objectives of this study by providing diagnoses of additional cyclone cases to serve as a comparative base for the pre-blocking cyclones to be studied in the multiple-case blocking diagnosis.

2. Publications and presentations

a. Refereed paper

Lupo, A.R., and P.J. Smith, 1994: Climatological Features of Blocking Anticyclones in the Northern Hemisphere, accepted by Tellus.

b. Preprint papers

The following papers were presented and are included in the preprint volumes of the Symposium on the Life Cycles of Extratropical Cyclones, June 27-July 1, 1994, Bergen, Norway.

Lupo, A.R., and P.J. Smith: The Interaction Between a Mid-Latitude Blocking Anticyclone and the Precursor Cyclone Over the North Atlantic Ocean, Vol. II, 50-55.

Smith, P.J., and A.R. Lupo: A Diagnosis of the Life Cycle of a Marine Cyclone System, Vol. II, 329-334.

c. **Presentations**

Smith, P.J.: "Diagnosing Synoptic-Scale Development: the Zwack-Okossi Equation", invited seminar, National Meteorological Center, Suitland, Maryland.

Smith, P.J.: "The Diagnosis of a Model-Simulated Explosively Developing Extratropical Cyclone", invited seminar, Ecole Nationale de la Meteorologie, Toulouse, France.